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6379 **Decoding the Histone Code: Role of H3K36me3 in Mismatch Repair and Implications for Cancer Susceptibility and Therapy**
Guo-Min Li

6384 **Real-time Liquid Biopsy in Cancer Patients: Fact or Fiction?**
Klaus Pantel and Catherine Aix-Panabieres

**MEETING REPORT**

6389 **The Hippo Tumor Suppressor Network: From Organ Size Control to Stem Cells and Cancer**
Georg Halder and Fernando D. Camargo

**PRIORITY REPORT**

6393 **Erythropoietin Activates Cell Survival Pathways in Breast Cancer Stem-like Cells to Protect Them from Chemotherapy**
Matilde Todaro, Alice Turdo, Monica Bartucci, Flora Iovino, Rosanna Dattilo, Marco Biffoni, Giorgio Stassi, Giulia Federici, Ruggero De Maria, and Ann Zeuner

**INTEGRATED SYSTEMS AND TECHNOLOGIES**

6401 **A Transcriptional and Metabolic Signature of Primary Aneuploidy Is Present in Chromosomally Unstable Cancer Cells and Informs Clinical Prognosis**
Jason M. Sheltzer

**MICROENVIRONMENT AND IMMUNOLOGY**

6413 **GM-CSF Promotes the Immunosuppressive Activity of Glioma-Infiltrating Myeloid Cells through Interleukin-4 Receptor-α**
Gary Kohanbash, Kayla McKaveney, Masashi Sakaki, Ryo Ueda, Arlan H. Mintz, Nduka Amankulor, Mitsugu Fujita, John R. Ohlfest, and Hideho Okada

**PÈCIES:** These findings reveal the operation of immunosuppressive mechanisms in the glioblastoma microenvironment driven by GM-CSF, a factor used in the clinic to elevate white blood cell counts in patients, suggesting clinical risks arising from its use.

6424 **Substance P Autocrine Signaling Contributes to Persistent HER2 Activation That Drives Malignant Progression and Drug Resistance in Breast Cancer**
Susana García-Recio, Gemma Fuster, Patricia Fernandez-Nogueira, Eva M. Pastor-Arroyo, So Yeon Park, Cristina Mayordomo, Elisabet Ametller, Mario Mancino, Xavier Gonzalez-Farre, Hege G. Russnes, Pablo Engel, Domiziana Costamagna, Pedro L. Fernandez, Pedro Gascón, and Vanessa Almendro

**PÈCIES:** This work illuminates the oncogenic cooperation between HER2 and a substance P receptor involved in pain signaling, providing a novel link between cancer inflammation and progression that might be targeted by substance P antagonists being explored in the clinic.

**MOLECULAR AND CELLULAR PATHOBIOLOGY**

6435 **miR-153 Supports Colorectal Cancer Progression via Pleiotropic Effects That Enhance Invasion and Chemotherapeutic Resistance**
Lei Zhang, Karen Pickard, Veronika Jenei, Marc D. Bullock, Amanda Bruce, Richard Mitter, Gavin Kelly, Christos Paraskeva, John Strefford, John Primrose, Gareth J. Thomas, Graham Packham, and Alex H. Mirnezami

**PÈCIES:** MicroRNAs that facilitate progression and mediate drug resistance in advanced cancers have increased appeal as treatment targets, given the more frequent lack of effective therapies at late stages of disease.
Mutationally Activated PIK3CA\textsuperscript{H1047R} Cooperates with BRAF\textsuperscript{V600E} to Promote Lung Cancer Progression

Christy L. Trejo, Shon Green, Victoria Marsh, Eric A. Collisson, Gioia Izessa, Wayne A. Phillips, and Martin McMahon

Précis: These findings deepen the in vivo evidence that MAPK and PI3K signaling cooperates in mediating the development and progression of KRAS-mutated lung cancer, suggesting combination therapies to treat this disease.

Antitumor Efficacy of a Monoclonal Antibody That Inhibits the Activity of Cancer-Associated Carbonic Anhydrase XII

Gabor Gondi, Josef Myśliwietz, Alzbeta Hulíková, Jian Ping Jen, Pawel Swietach, Elisabeth Kremmer, and Reinhard Zeidler

Précis: This study offers a preclinical proof-of-concept for immune targeting a cell surface carbonic anhydrase that is widely expressed in human cancer as a general therapeutic strategy.

Photodynamic Therapy of Murine Mastocytoma Induces Specific Immune Responses against the Cancer/Testis Antigen P1A

Pawel Mroz, Fatma Vatansever, Angelika Muchowicz, and Michael R. Hamblin

Précis: Effective photodynamic therapy used to treat certain cancers may act as antigen-specific immunotherapy.

Bispecific Antibody to ErbB2 Overcomes Trastuzumab Resistance through Comprehensive Blockade of ErbB2 Heterodimerization

Bohua Li, Yanchun Meng, Lei Zheng, Xumin Zhang, Qing Tong, Wenlong Tan, Shi Hu, Hui Li, Yang Chen, Jinjing Song, Ge Zhang, Lei Zhao, Dapeng Zhang, Sheng Hou, Weizhu Qian, and Yajun Guo

Précis: Using a bispecific antibody to block ErbB2/HER2 heterodimerization on the surface of breast cancer cells may provide a strategy to overcome resistance to Herceptin that remains a major clinical challenge in breast cancer patients.

MYC Phosphorylation at Novel Regulatory Regions Suppresses Transforming Activity

Amanda R. Waylish, Michelle Chan-Seng-Yue, Christina Rros, Dharmendra Dingar, William B. Tu, Manpreet Kalkat, Pak-Kei Chan, Peter J. Mullen, Ling Huang, Natalie Meyer, Brian Raught, Paul C. Routros, and Linda Z. Penn

Précis: MYC phosphorylation mutants with super-transforming activity that were identified in this study point the way toward new therapeutic targets to attack MYC by a backdoor approach.

Nitric Oxide Production Upregulates Wnt/\beta-Catenin Signaling by Inhibiting Dickkopf-1

Qiang Du, Xinglu Zhang, Quan Liu, Xianghong Zhang, Christian E. Bartels, and David A. Geller

Précis: In addressing the complex role of nitric oxide in cancer, this study furthers evidence of an oncogenic contribution that is mediated by a mechanism that stimulates Wnt/\beta-catenin signaling, a central pathway for carcinogenesis.

Correction: Breast Tumor Kinase (Brk/PTK6) Is a Mediator of Hypoxia-Associated Breast Cancer Progression

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ABOUT THE COVER

miR-153 leads to increased invasiveness in colorectal cancer. Using mouse tumor xenografts, it was found that colorectal tumors with inhibition of miR-153 show a clean edge of tumor spheroid and fewer invasive fronts into the surrounding stroma (magnification, ×400) in contrast to controls with a more locally invasive tumor phenotype. For details, see article by Zhang and colleagues on page 6435.
Cancer Research

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